

**Remarks**

Claims 1-11, 16, 17, 19, 21-32, 34-37, 44-53, 55-76 and 85-88 are pending.

Claims 21-22, 25-27, 29-31, 36 and 51-53 have been withdrawn from consideration.

Claims 1, 44, 48, 51, 55-58, 61-63, 73-74 and 85-88 have been amended to clarify that a plurality of molded plastic stiffener components is attached to *a first surface* of the substrate – which limitation has been previously considered by the Examiner (e.g., Claims 24 and 34). Therefore, no new matter has been added with the amendments to the claims.

The amendments to the claims are merely to clarify language used in the claims and/or the subject matter claimed. The scope of the claims is intended to be the same as before the amendment. No new matter has been added.

**Rejection of Claims under 35 U.S.C. §§ 102(e)/103(a) (Hofstee)**

The Examiner rejected Claims 1, 24, 34, 58-59, 61 and 85 under Section 102(e) as anticipated by Hofstee (USP 6,541,847), and depending Claims 3-8 under Section 103(a) as obvious over Hofstee. These rejections are respectfully traversed.

Applicant reserves the right to swear behind Hofstee, which was filed February 4, 2002 (versus Applicant's filing date of February 15, 2002).

Without admitting Hofstee as prior art to Applicant's invention, to anticipate, a single reference must disclose each and every limitation of the claimed invention. *SmithKline Beecham Corp. v. Apotex Corp.*, 78 USPQ2d 1097 (Fed. Cir. 2006); *Eolas Technologies Inc. v. Microsoft Corp.*, 73 USPQ2d 1782 (Fed. Cir. 2005).

The claims at issue are to a device that is defined by a plurality of stiffeners/stiffener components attached to a first surface of a substrate.

Hofstee does not teach or suggest a plurality of stiffeners on a first surface of a substrate. Rather, Hofstee teaches a single, unitary plate-like stiffener applied to a substrate that includes openings for mounting the dies onto the underlying substrate.

See, for example, stiffeners 125, 126 in Figs. 5-6 of Hofstee (below)

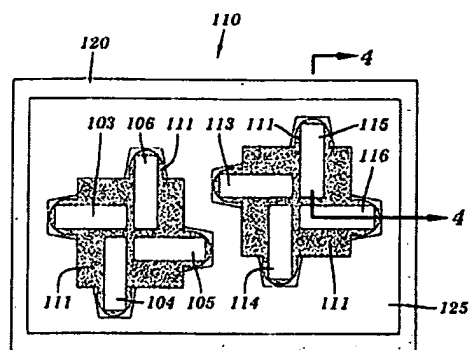


FIG. 5

stiffener  
125

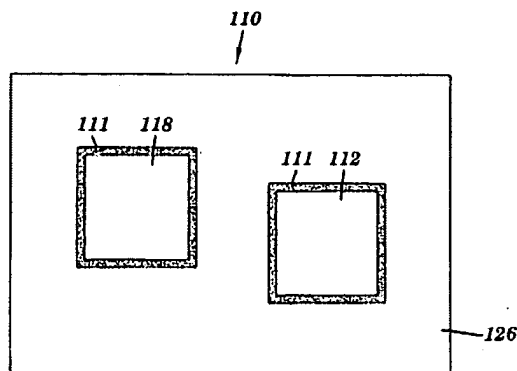


FIG. 6

stiffener  
126

Similarly, see also Hofstee's Figs. 2-3 (stiffeners 25, 26) and Figs. 8-9 (stiffeners 225, 226) – which are also single unitary plate-like stiffeners over the surface of the substrate.

Further with respect to Claims 24, 58-59 and 61, Hofstee does not teach a *plurality* of stiffener components situated proximate the periphery of a first surface of a substrate (as admitted by the Examiner in the Office Action at page 5, lines 1-2).

Hofstee fails to disclose each and every feature of the invention as defined in Claims 1, 24, 34, 58-59, 61 and 85, and thus does not anticipate those claims. Nor does Hofstee's disclosure make obvious Claims 3-8, which depend from and include all of the limitations of Claim 1.

Accordingly, withdrawal of these rejections is respectfully requested.

### **Rejection of Claims under 35 U.S.C. § 103(a) (Hofstee/McMillan)**

The Examiner rejected Claims 2, 9, 16, 28, 35, 44-50, 60, 62-76, 55-58 and 85-88 under Section 103(a) as obvious over Hofstee in view of McMillan (USP 5,650,593). This rejection is respectfully traversed.

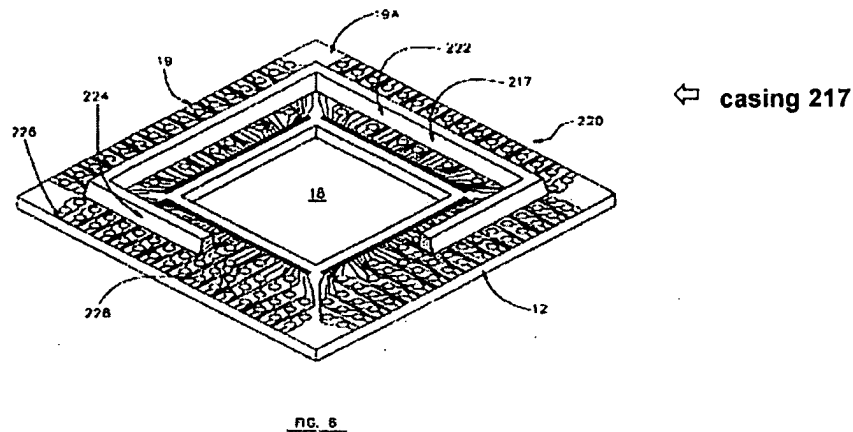
The Examiner maintains that it would be obvious to modify Hofstee's invention with McMillan's *substrate materials* (re. Claims 2, 9, 37, 64-66, 75), *structural aspects* (re. Claim 16, 17, 28, 76, 86-88), *peripheral location* (re. Claims 35, 62-63), and *processing* (re. Claims 44-50, 62-67, 69-76).

For the reasons stated above with respect to the failure of Hofstee to teach or suggest Applicant's devices as claimed, the added disclosure of McMillan does not make up for that deficiency.

As discussed above, Hofstee fails to teach a plurality of stiffeners on a first surface of a substrate. Rather, Hofstee teaches a single, unitary plate-like stiffener applied to a substrate that includes openings for mounting the dies onto the underlying substrate.

And McMillan, like Hofstee, also teaches a single component – casing 217 (Fig. 6) on a substrate, which is a continuous structure in the form of a *dam* to contain encapsulant within the walls 222.

See McMillan's Fig. 6 below (and the description at col. 9, lines 7-34).



Neither Hofstee nor McMillan describe a plurality of components attached to a substrate as defined by Applicant's claims, and there is no suggestion to substitute a plurality of components for Hofstee's single plate-like stiffeners.

The proposed modification of Hofstee with McMillan's disclosure does not teach or suggest Applicant's devices as claimed. Accordingly, withdrawal of this rejection is respectfully requested.

**Rejection of Claims under 35 U.S.C. § 103(a) (Hofstee/APA)**

The Examiner rejected Claims 10, 11 and 55-57 as obvious over Hofstee in view of 'Admitted Prior Art' (APA). This rejection is respectfully traversed. .

The Examiner maintains that it would be obvious to modify Hofstee's invention with stiffeners made of a thermosetting material – citing to Figs. 1-2 and pages 1-2 of Applicant's disclosure.

For the reasons stated above with respect to the failure of Hofstee to teach or suggest Applicant's devices as claimed, the added disclosure of the use of thermosetting material to form the stiffeners disclosed by Hofstee does not make up for that deficiency.

As discussed above, Hofstee fails to a *plurality* of stiffeners on a first surface of a substrate. Rather, Hofstee teaches a *single, unitary plate-like stiffener* applied to a substrate that includes openings for mounting the dies onto the underlying substrate.

Hofstee combined with Applicant's disclosure at pages 1-2 and Figs. 1-2, does not teach or suggest Applicant's devices as claimed. Accordingly, withdrawal of this rejection is respectfully requested.

**Rejection of Claims under 35 U.S.C. § 103(a) (Hofstee/Gregory)**

The Examiner rejected Claims 23 and 60 as obvious over Hofstee in view of Gregory (USP 4,710,419). This rejection is respectfully traversed.

The Examiner maintains that it would be obvious to modify Hofstee's substrate in the form of a reel or a leadframe based on Gregory's disclosure.

For the reasons stated above with respect to the failure of Hofstee to teach or suggest Applicant's devices as claimed, the added disclosure of Gregory does not make up for that deficiency.

As discussed above, Hofstee fails to a *plurality* of stiffeners on a first surface of a substrate. Rather, Hofstee teaches a *single, unitary plate-like stiffener* applied to a substrate that includes openings for mounting the dies onto the underlying substrate.

Hofstee combined with Gregory's disclosure does not teach or suggest Applicant's devices as claimed. Accordingly, withdrawal of this rejection is respectfully requested.

**No Rejection of Claim 32**

Pending Claim 32 defines the device of Claim 29 as having first stiffener components *protruding* from the surface of the substrate, and second stiffener components *situated within a recess* with the substrate. No prior art rejection of Claim 32 was made by the Examiner.

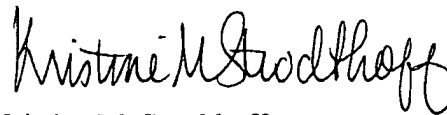
Moreover, nothing in Hofstee or the other cited art discloses a stiffener component situated in a recess within a substrate, as defined in Claim 32.

**Extension of Term.**

The proceedings herein are for a patent application and the provisions of 37 CFR § 1.136 apply. Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that Applicant has inadvertently overlooked the need for a petition for extension of time. If any extension and/or fee are required, please charge Account No. 23-2053.

It is respectfully submitted that the claims are in condition for allowance and notification to that effect is earnestly solicited.

Respectfully submitted,



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Dated: May 4, 2009

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